

US006492965B2

# (12) United States Patent

Kasahara et al.

(10) Patent No.:

US 6,492,965 B2

(45) Date of Patent:

\*Dec. 10, 2002

(54)	DISPLAY DEVICE AND LUMINANCE
	CONTROL METHOD THEREFOR

(75) Inventors: Mitsuhiro Kasahara, Hirakata (JP); Yuichi Ishikawa, Ibaraki (JP); Tomoko

Morita, Hirakata (JP)

(73) Assignee: Matsushita Electric Industrial Co.,

Ltd., Osaka (JP)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35

U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

- (21) Appl. No.: 09/994,775
- (22) Filed: Nov. 28, 2001
- (65) Prior Publication Data

US 2002/0033814 A1 Mar. 21, 2002

#### Related U.S. Application Data

- (62) Division of application No. 09/856,161, filed as application No. PCT/JP00/06212 on Sep. 11, 2000.
- (30) Foreign Application Priority Data

Oct. 4. 1999 (JP) ...... 11-283228

- (51) Int. Cl.<sup>7</sup> ...... G09G 3/28
- (52) U.S. Cl. ...... 345/63; 345/211; 345/690
- (56) References Cited

#### U.S. PATENT DOCUMENTS

6.191.505 B1 2/2001 Matsuyama 6.270,061 B1 8/2001 Bouquet et al.

#### FOREIGN PATENT DOCUMENTS

JP 6282241

10/1994

JР	9-6283	1/1997
JР	9198005	7/1997
JР	9288467	11/1997
JP	9 288467	11/1997
ĴΡ	10215424	. 8/1998
JР	11194745	7/1999
JР	11 194745	7/1999
JP	11212517	8/1999
JР	11 231828	8/1999
JР	11231828	- 8/1999
JP	11288244	10/1999
JP	11 288244	10/1999
JP .	11-283228	10/2001
JР	2001200087	10/2001

#### OTHER PUBLICATIONS

An English Language abstract of JP 6-282241.

An English Language abstract of JP 9-6283.

An English Language abstract of JP 9-198005.

An English Language abstract of JP 10-215424.

An English Language abstract of JP 11-194745.

An English Language abstract of JP 11-288244.

An English Language abstract of JP 11-231828.

An English Language abstract of JP 9–288467.

An English Language abstract of JP 11–212517.

ITE '98: 1998 ITE Annual Convention, along with a partial English Translation.

Primary Examiner-Kent Chang

(74) Attorney, Agent, or Firm-Greenblum & Bernstein, P.L.C.

## (57) ABSTRACT

A temperature difference estimated value is found from a video signal using a temperature estimated value representing the temperature of the panel outer periphery of a display screen of a PDP and a reference value representing the temperature of the panel outer periphery of the PDP which is outputted from a panel periphery temperature setter by a temperature difference estimator, and the luminance of an image displayed on a display is controlled depending on the temperature difference estimated value by a controller and a brightness controller.

### 9 Claims, 18 Drawing Sheets

